

CLAIMS

1. An information recording medium on which one or a plurality of titles, each of which is a logically-grouped information unit, are recorded, said information recording medium comprising:

an object data file for storing object data which constitutes a series of content information;

a play list information file for storing a plurality of play list information which defines a reproduction sequence of the object data stored in said object data file by a unit of play list which is logically accessible; and

a disc information file for storing a plurality of information groups including, as reproduction control information for controlling the reproduction of said object data file, (i) play list specification information for specifying one play list information which defines the play list to be reproduced from among the plurality of play list information stored in said play list information file, (ii) Pre command information which indicates a command to be executed before the reproduction based on the one play list information, and (iii) Post command information which indicates a command to be executed after the reproduction based on the one play list information,

the title being logically comprising one or more than one of the plurality of information groups,

the Pre command information and the Post command information including a command table on which a command group

comprising zero, one or more statements are written,

the Pre command information including a Pre command pointer which is written separately from the command table and which specifies the address of the command to be executed before
5 the reproduction included in the command table,

the Post command information including a Post command pointer which is written separately from the command table and which specifies the address of the command to be executed after the reproduction included in the command table,

10 the Pre command information and the Post command information including a command pointer which specifies the address of each of the Pre command pointer and the Post command pointer.

15 2. The information recording medium according to claim 1, wherein the object data is constructed such that an entire stream including a plurality of portion streams, each of which comprises the content information, is multiplexed by a unit of packet, which is a physically accessible unit and which stores therein a piece of the
20 content information,

said information recording medium further comprising an object information file for storing correspondence definition information which defines the correspondence relationship between a plurality of packets to be multiplexed and the plurality of portion
25 streams as another reproduction control information for controlling the reproduction of said object data file.

3. The information recording medium according to claim 2,
wherein

said play list information file is collectively recorded in one
5 area on said information recording medium,

said disc information file is collectively recorded in another
area on said information recording medium, and

said object information file is collectively recorded in another
area on said information recording medium.

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4. The information recording medium according to claim 1,
wherein

said play list information file is collectively recorded in one
area on said information recording medium, and

15 said disc information file is collectively recorded in another
area on said information recording medium.

5. An information recording apparatus for recording one or a
plurality of titles, each of which is a logically-grouped information
20 unit, onto an information recording medium,

said information recording apparatus comprising:

a first recording device for recording an object data file for
storing object data which constitutes a series of content
information;

25 a second recording device for recording a play list
information file for storing a plurality of play list information which

defines a reproduction sequence of the object data stored in said object data file by a unit of play list which is logically accessible; and

a third recording device for recording a disc information file
5 for storing a plurality of information groups including, as reproduction control information for controlling the reproduction of said object data file, (i) play list specification information for specifying one play list information which defines the play list to be reproduced from among the plurality of play list information stored
10 in said play list information file, (ii) Pre command information which indicates a command to be executed before the reproduction based on the one play list information, and (iii) Post command information which indicates a command to be executed after the reproduction based on the one play list information,

15 the title being logically comprising one or more than one of the information groups,

the Pre command information and the Post command information including a command table on which a command group comprising zero, one or more statements are written,

20 the Pre command information including a Pre command pointer which is written separately from the command table and which specifies the address of the command to be executed before the reproduction included in the command table,

the Post command information including a Post command
25 pointer which is written separately from the command table and which specifies the address of the command to be executed after the

reproduction included in the command table,

the Pre command information and the Post command information including a command pointer which specifies the address of each of the Pre command pointer and the Post command
5 pointer.

6. An information recording method of recording one or a plurality of titles, each of which is a logically-grouped information unit, onto an information recording medium,

10 said information recording method comprising:

a first recording process of recording an object data file for storing object data which constitutes a series of content information;

a second recording process of recording a play list
15 information file for storing a plurality of play list information which defines a reproduction sequence of the object data stored in said object data file by a unit of play list which is logically accessible; and

a third recording process of recording a disc information file
20 for storing a plurality of information groups including, as reproduction control information for controlling the reproduction of said object data file, (i) play list specification information for specifying one play list information which defines the play list to be reproduced from among the plurality of play list information stored
25 in said play list information file, (ii) Pre command information which indicates a command to be executed before the reproduction

based on the one play list information, and (iii) Post command information which indicates a command to be executed after the reproduction based on the one play list information,

the title being logically comprising one or more than one of
5 the information groups,

the Pre command information and the Post command information including a command table on which a command group comprising zero, one or more statements are written,

the Pre command information including a Pre command
10 pointer which is written separately from the command table and which specifies the address of the command to be executed before the reproduction included in the command table,

the Post command information including a Post command pointer which is written separately from the command table and
15 which specifies the address of the command to be executed after the reproduction included in the command table,

the Pre command information and the Post command information including a command pointer which specifies the address of each of the Pre command pointer and the Post command
20 pointer.

7. An information reproducing apparatus for reproducing at least one portion of the recorded titles from said information recording medium according to claim 1, said information
25 reproducing apparatus comprising:

a reading device for physically reading information from said

information recording medium; and

a reproducing device for reproducing the object data included in the information read by said reading device, on the basis of the reproduction control information and the play list information
5 included in the information read by said reading device.

8. An information reproducing method of reproducing at least one portion of the recorded titles from said information recording medium according to claim 1, said information reproducing method
10 comprising:

a reading process of physically reading information from said information recording medium; and

a reproducing process of reproducing the object data included in the information read by said reading device, on the basis of the
15 reproduction control information and the play list information included in the information read by said reading device.

9. An information recording and reproducing apparatus for recording one or a plurality of titles onto and reproducing at least
20 one portion of the recorded titles from said information recording medium according to claim 1, said information recording and reproducing apparatus comprising:

a first recording device for recording the object data file;

a second recording device for recording the play list
25 information file;

a third recording device for recording the disc information

file;

a reading device for physically reading information from said information recording medium; and

5 a reproducing device for reproducing the object data included in the information read by said reading device, on the basis of the reproduction control information and the play list information included in the information read by said reading device.

10. An information recording and reproducing method of
10 recording one or a plurality of titles onto and reproducing at least one portion of the recorded titles from said information recording medium according to claim 1, said information recording and reproducing method comprising:

a first recording process of recording the object data file;

15 a second recording process of recording the play list information file;

a third recording process of recording the disc information file;

20 a reading process of physically reading information from the information recording medium; and

a reproducing process of reproducing the object data included in the information read by said reading device, on the basis of the reproduction control information and the play list information included in the information read by said reading device.

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11. A computer program for controlling record which controls a

computer provided in said information recording apparatus according to claim 5 and which causes the computer to function as at least one portion of said first recording device, said second recording device, and said third recording device.

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12. A computer program for controlling reproduction which controls a computer provided in said information reproducing apparatus according to claim 7 and which causes the computer to function as at least one portion of said reading device and said
10 reproducing device.

13. A computer program for controlling record and reproduction which controls a computer provided in said information recording and reproducing apparatus according to claim 9 and which causes
15 the computer to function as at least one portion of said first recording device, said second recording device, said third recording device, said reading device, and said reproducing device.

14. A data structure including a control signal, which includes
20 one or a plurality of titles, each of which is a logically-grouped information unit, said data structure comprising:

an object data file for storing object data which constitutes a series of content information;

a play list information file for storing a plurality of play list
25 information which defines a reproduction sequence of the object data stored in said object data file by a unit of play list which is

logically accessible; and

a disc information file for storing a plurality of information groups including, as reproduction control information for controlling the reproduction of said object data file, (i) play list specification
5 information for specifying one play list information which defines the play list to be reproduced from among the plurality of play list information stored in said play list information file, (ii) Pre command information which indicates a command to be executed before the reproduction based on the one play list information, and
10 (iii) Post command information which indicates a command to be executed after the reproduction based on the one play list information,

the title being logically comprising one or more than one of the plurality of information groups,

15 the Pre command information and the Post command information including a command table on which a command group comprising zero, one or more statements are written,

the Pre command information including a Pre command pointer which is written separately from the command table and
20 which specifies the address of the command to be executed before the reproduction included in the command table,

the Post command information including a Post command pointer which is written separately from the command table and which specifies the address of the command to be executed after the
25 reproduction included in the command table,

the Pre command information and the Post command

information including a command pointer which specifies the address of each of the Pre command pointer and the Post command pointer.